CLAIMS

What I claim as my invention is:

1. An expander locking plier comprising:

a fixed arm wherein a J-shape clamping arm with adjustable jaw is attached to one end and a rear adjustment screw is attached to the other end;

a movable arm wherein a self-locking and quick release mechanism is equipped;

an adjustable moving jaw connecting one end of the said fixed arm and one end of the said movable arm by pivots; and

a crossed relationship between the said J-shape clamping arm and the said adjustable moving jaw is created.

2. An expander locking plier according to claim 1, wherein the crossed section of the fixed arm is U-shape at the J-shape clamping arm end and cylindrical shape at the rear adjustment screw end.

3. An expander locking plier according to claim 1, wherein the movable arm, similar in design as a conventional locking plier, is equipped with the self-locking and quick release mechanism which is used to lock the expander locking plier in locking position with desired force and to release the clamping action quickly and easily.

4. The fixed arm according to claim 2, wherein a J-shape clamping arm is attached with its straight end to the U-shape end through a L-shape metal plate and four rivets;

the said J-shape clamping arm is made of two J-shape metal plates spaced apart by a rectangular metal block welded at the smaller end; and

the said J-shape clamping arm is hollow in the middle part.

5. The rectangular metal block according to claim 4 is made to have a threaded hole in the middle to accept the adjustable jaw which is a threaded screw with clamping jaw surface.

6. The fixed arm according to claim 2, wherein the cylindrical shape end is threaded internally to accept the rear adjustment screw for the adjustment of the clamping size and clamping force by turning the rear adjustment screw clockwise or counterclockwise.

7. The rear adjustment screw according to claim 6, wherein the outside end is an elongated thumb screw with a cylindrical hole drilled at right angle to the screw axis so that a metal rod or a screw driver of the right size can be fed through the said cylindrical hole to apply a larger turning torque if stronger clamping force is required.

8. The adjustable moving jaw according to claim 1, wherein the free end is equipped with a long screw inserted into a threaded hole so that the length of the protrusion of the screw can be adjusted, the said long screw is made to have clamping jaw surface.

9. The adjustable moving jaw according to claim 1, wherein the free end is fed through the hollow portion in the middle of the J-shape clamping arm so that a crossed relationship between the adjustable moving jaw and the J-shape clamping arm is created, this crossed relationship enables the expanding action and internal clamping when the movable arm is pressed against the fixed arm.